Industrial Data Implementors Forum

Industry Need to Exchange "Data Linked Schematics" / "Functional Schematics" (aka, Intelligent Schematics)

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NIST

Background

◆ *Process Plant industries need an effective international standard for exchanging:*

- *process flow diagrams (PFDs)*
- *piping and instrumentation diagrams (P&IDs)*

◆ *AP 221 , Functional Data and Schematic Representation for Process Plant*

- *includes the exchange of P&IDs*
- *AIM development is scheduled to restart in mid-2000*

◆ *AP 212, Electrotechnical Design and Installation*

- *includes much of the capabilities for electrical schematics*

◆ *other industries have similar requirements*

- *utilities, hydraulics, avionics, building systems, ship systems,…*

What is a Data Linked Schematic (aka, Intelligent Schematic)? (initial definition)

◆ **The description of the connectivity of items in a network and their graphical representation. This may include:**

- the identification and functional characteristics of the items and the network
- linkage or reference to the product data describing the items, the network, and possibly the product of which the network is part
- connection characteristics
- connectivity of the symbols
  - enable the correspondence of the schematic and the underlying connectivity to be controlled and exploited
- symbols used to represented the items (with reference to symbol libraries)
- placement of the symbols and network in presentation coordinates

Not Included

◆ ***This module/capability would not include the capability to evaluate the state of the network or the behavior of the components or the network***

- *response to questions from WG12 Parametrics Group*

Possible Solution

- Document common industry requirements

- Establish industry support for developing Data linked schematics module

- Investigate correspondence with CAD/CAE software tools

  - obtain vendor participation

- Review utility of AP 202, AP 212, AP 214, STEP-CDS and SCADEC "sub-schemata"

- Develop a module, independent of industry specific semantics

Next Steps (1/2)

- **Do you agree with this basic definition (and label) for the Intelligent Schematics module/capability?**

- **Who will work with us to develop this capability?…**

  - Larry McKee, Jim U'ren, Rob Bodington, Shipbuilding

- **Who should be contacted to participate in this effort?**

  - Systems Engineering (AP 233), STEP Centers, AP 212, JWG9, Ishikawa, Visio

  - OMG, AIAG, I-Logix (s/w vendor),

- **Recommendations for successful and expedient completion of this work?**

Next Steps (2/2)

- **Meet with SC4/PPC and other SC4 projects**
  - **contribute to SC4 draughting and schematics development and deployment strategy**
- **Develop usage scenarios**
- **Document target capabilities of implementations**
  - prepare material for June 2000 SC4 meeting
- **Confirm SC4 projects which might use this module**
  - AP 221, AP 231, others...
- **Schedule meeting for next SC4 meeting**
  - Thursday morning, 2000-06-29
  - define development and validation plan